UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,075	08/10/2001	Jianhong Hu		4940

			EXAMINER
30009	7590	07/27/2005	GENACK, MATTHEW W

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ART UNIT	PAPER NUMBER
2645	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/927,075	HU, JIANHONG
Office Action Summary	Examiner	Art Unit	
	Matthew W. Genack	2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-8* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-8* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *10 August 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   An examination of this application reveals that applicant is unfamiliar with patent

prosecution procedure. While an inventor may prosecute the application, lack of skill in

this field usually acts as a liability in affording the maximum protection for the invention

disclosed. Applicant is advised to secure the services of a registered patent attorney or

agent to prosecute the application, since the value of a patent is largely dependent upon

skilled preparation and prosecution. The Office cannot aid in selecting an attorney or

agent.

        A listing of registered patent attorneys and agents is available on the USPTO

Internet web site http://www.uspto.gov in the Site Index under "Attorney and Agent

Roster." Applicants may also obtain a list of registered patent attorneys and agents

located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and

Trademark Office, PO Box 1450, Alexandria, VA 22313-1450.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.   Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claims contains subject matter which was

not described in the specification in such a way as to reasonably convey to one skilled

in the relevant art that the inventor, at the time the application was filed, had possession

of the claimed invention. Applicant claims a wireless terminal and an access point that

are capable of supporting a large number of wireless standards, but fails to explain the

technical details of enabling these apparatuses to support this plethora of interfaces.

More specifically, Applicant does not address, in detail, the software and hardware

issues associated with supporting these wireless standards, but rather merely mentions

and draws apparatuses that are allegedly capable of this feat. Thus, the specification

fails to disclose any specific details for enabling one skilled in the art to make the

invention.

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-2 and 5-8 are rejected as failing to define the invention in the manner

required by 35 U.S.C. 112, second paragraph.

The Claims are narrative in form and replete with indefinite and functional or

operational language. The structure which goes to make up the device must be clearly

and positively specified. The structure must be organized and correlated in such a

manner as to present a complete operative device. The Claims must be in one

sentence form only.

The following are instances of failures to meet 35 U.S.C. 112, second paragraph,

along with the Examiner's corresponding interpretations:

- The applicant may not claim anything that has a component that has yet to be

  invented. Thus, the phrase "future PDM network" in Claim 1 Line 31 is not

  allowable.

- Claim 2 contains industry standards. An industry standard must have a stable definition in order for its use to be acceptable in a Claim.

- The word "any" in Claim 2 Lines 6 and 9 constitutes indefinite language. Examiner interprets Claim 2 such that this word is omitted in both instances.

- Claim 2 contains only exemplary limitations. Consequently, Examiner considers Claim 2 as claiming nothing beyond that which Claim 1 claims.

- The meaning of the phrase "said open base-band / control processing engine, the said broadband transceiver as well as the said radio frequency unit" in Claim 5 Lines 3-5 is unclear because in Claim 1, both the converged wireless terminal and the common access point have these elements. Examiner interprets Claim 5 such that this phrase refers to the elements of the converged wireless terminal.

- The phrase "said air interface modules" in Claim 6 Line 3 and Line 6 lacks antecedent basis. Examiner interprets Claim 6 such that this phrase is replaced with "said software modules that provide air interfaces to the CAI-BIOS".

- The phrase "any version of Internet Protocol" in Claim 7 Line 3 constitutes indefinite language. Also, the applicant may not claim anything that has a component that has yet to be invented. Thus, the phrase "future development of packet-oriented protocol" is not allowable. Consequently, Examiner considers Claim 7 as claiming nothing beyond that which Claim 1 claims.

- Claim 8 lacks antecedent basis due to the phrase "said converged wireless terminal" in Line 1 and the fact that Claim 8 does not depend on any other Claim. Examiner interprets Claim 8 as depending on Claim 1.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jorgensen, U.S. Patent No. 6,862,622, in view of Willhoff, U.S. Patent No.

5,887,262.

Jorgensen discloses a system architecture for wireless IP packet communication;

several wireless air interface protocols, such as TDMA, FDMA, and CDMA, may be

used (Abstract, Column 3 Lines 31-59, Column 6 Lines 4-9). The system architecture

involves the convergence of separate voice, video, and data networks into a single

broadband network (Column 2 Lines 40-56, Column 3 Lines 60-65, Column 33 Lines 6-

25, Fig. 2C). Jorgensen discloses a cellular telephone as part of this converged

network (Column 24 Lines 42-46, Fig. 2A). It is inherent that the cellular telephone in

this wireless IP network contains a transceiver for upconverting the base band analog

signal equivalent of the user's voice to the radio transmission frequency, converting

downlink digital packet data to analog signals, and downconverting this analog signal to

a base band signal that is sent to a speak adjacent to the user's ear. It is inherent that

the cellular telephone contains a processor, or set of processors, for executing whatever

wireless algorithms and protocols (TDMA, FDMA, CDMA as mentioned above) are

being used by the cellular telephone at any given time, and a basic input/output system

for controlling the processor(s) as well as the transceiver in its use of the various

wireless air interface protocols, and a memory for storing the various air interface

protocol software modules and loading them to the basic input/output system as

needed.

Jorgensen discloses wireline infrastructure comprising an end office switch and a

cellular tower for communicating with the aforementioned cellular telephone (Column 24

Lines 42-48, Fig. 2A). It is inherent that this infrastructure contains a transceiver for

converting from digital base band data to a radio frequency analog signal and vice

versa, as well as a processor, or set of processors, for executing whatever wireless

algorithms and protocols (TDMA, FDMA, CDMA as mentioned above) are being used

by the cellular tower at any given time, and a basic input/output system for controlling

the processor(s) as well as the transceiver in its use of the various wireless air interface

protocols, and a group of software modules associated with the various air interface

protocol software modules for use by the basic input/output system. An access tandem

connects the end office switch to backbone wireline networks (Fig. 2A). Jorgensen

discloses that the aforementioned converged network may be connected to the Internet,

an IP packet network (Column 25 Lines 10-15).

Jorgensen does not expressly disclose the use of smart antennas.

Willhoff discloses the use of a smart antenna array with a base station in the

context of multiple air interface protocols for digital cellular systems (Abstract, Column 3

Lines 19-38, Column 4 Lines 28-41).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen by using a smart antenna array in the base station.

One of ordinary skill in the art would have been motivated to make this modification because smart antennas reduce the amount of interference between users, thus reducing the bit error rate, thereby allowing for faster data downlink transmission rates.

Claim 4 recites an architecture wherein integrated services of voice, data, and video are transmitted between the converged wireless terminal and the common access point via all-IP end-to-end direct signaling and protocol. Jorgensen discloses point-to-multipoint wireless packet transmission of IP voice, video, and data (Column 6 Lines 4-9, Column 33 Lines 6-15).

Claim 5 recites that the common air interface basic input/output system provides information on the air interfaces that comprises transmission parameters, modulation parameters, channel parameters, access control parameters, and dynamic bandwidth allocation parameters. Jorgensen discloses the practice of dynamic bandwidth allocation (Column 3 Lines 46-48, Column 33 Lines 6-15). Jorgensen fails to disclose a basic input/output system for providing information pertaining to the air interfaces to the transceiver. Examiner takes official notice that there exist basic input/output systems for providing the transceivers of working wireless communication devices with parameters for transmission, modulation, channels to be used, and access control. It would have been obvious to explicitly specify such a basic input/output system for the

wireless communication devices because it is the domain of basic input/output systems to control bidirectional communication between an electronic communication device and one or more users, and the aforementioned parameters are basic facets that must be addressed for wireless communication to occur.

Claim 6 recites the local storage of air interface modules in both the converged wireless terminal and the common access point and the uploading of air interface modules to the common access point from a remote network. Jorgensen fails to disclose the local storage of air interface modules in both the converged wireless terminal and the common access point and the uploading of air interface modules to the common access point from a remote network. Examiner takes official notice that both the wireless terminal and the common access point may store software, pertaining to wireless standards, locally. This modification is obvious because local storage of necessary software is extremely common in solid-state electronic information processing devices and allows users the convenience of not having to insert objects containing the necessary software every time the devices are to be used. Examiner takes official notice that the common access point may download software as necessary · from a remote network. This modification is obvious because the transfer of software between remotely connected IP devices is extremely common and gives users the capability of upgrading and enhancing the performance of said devices.

8.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen in view of Willhoff, further in view of Hagen, U.S Patent Application Publication 2002/0075844.

Hagen discloses that a mobile terminal of the discloses broadband wireless network may automatically or manually self-configure its configuration parameters ([0197]). Hagen fails to disclose this feature for the fixed wireless infrastructure. Examiner takes official notice that it was well known in the art at the time of the invention for a common access point to be reconfigurable, programmable, and software definable. This modification is obvious because there are numerous examples of both types of devices that have the same set of functions as a desktop personal computer (the ability to read from and write to memory, the ability to install new software, etc.), and such flexibility allows both the mobile wireless terminal and the fixed wireless infrastructure to be updated when new standards come into existence.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff by providing the means for the wireless terminal and the access point to automatically or manually select any of the available air interface protocols.

One of ordinary skill in the art would have been motivated to make this modification because it gives the user the flexibility of choosing a given protocol or of allowing the best available protocol to be chosen.

9.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen in view of Willhoff, further in view of Hagen, further in view of Kerr, U.S. Patent Application Publication 2002/0142844.

Jorgensen discloses the practice of dynamic bandwidth allocation (Column 3 Lines 46-48, Column 33 Lines 6-15).

Hagen discloses that a mobile terminal of the discloses broadband wireless network may automatically or manually self-configure its configuration parameters ([0197]).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff by providing the means for the wireless terminal and the access point to automatically or manually select any of the available air interface protocols.

One of ordinary skill in the art would have been motivated to make this modification because it gives the user the flexibility of choosing a given protocol or of allowing the best available protocol to be chosen.

Neither Jorgensen, nor Willhoff, nor Hagen expressly discloses the use of fingerprints and voiceprints.

Kerr discloses a biometric broadband gaming system and method (Abstract, [0034], Fig. 2). Voice patterns and fingerprints are used as forms of user verification ([0059], [0060], [0067]).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff as modified by Hagen by providing the means for taking and identifying fingerprints and voice patterns.

One of ordinary skill in the art would have been motivated to make this modification so as to prevent unauthorized use of a user's wireless terminal and his special services, such as voice mail.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Matthew W. Genack whose telephone number is 571-
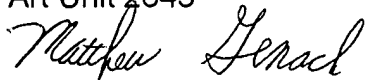272-7541. The examiner can normally be reached on FLEX.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for
the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
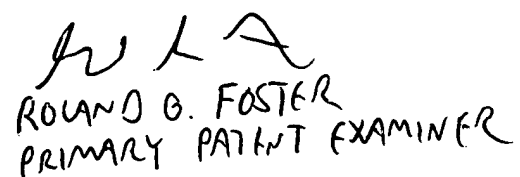Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Genack

Examiner

Art Unit 2645

18 July 2005

ROLAND G. FOSTER
PRIMARY PATENT EXAMINER